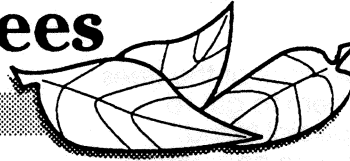


Kindergarten

Getting to Know Trees



Objectives

- Students will become more aware of their natural environment and the beauty of trees.
- Students will observe trees and be able to describe seasonal changes in specific trees.

Vocabulary Words

carbon dioxide	crowns
oxygen	fluids
seeds	bark
roots	adult
trunks	

Background Information

What would the world be like without trees? We would certainly miss their beauty. Think about the changes in colors from season to season, the rustle of leaves under our feet, the beautiful green of the evergreen trees standing in the white of winter snow. What are some other beautiful things about trees?

A summer without trees would be much hotter. Trees give us shade and help cool the air. Trees “drink” huge amounts of water each day, and some of that water passes into the air to give us moisture. Trees also clean our air by taking **carbon dioxide** out of it and using it to make their own food. As they do this, they make **oxygen**, which is the air we breathe.

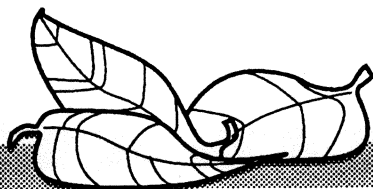
Many animals would be without homes and food if there were no trees. Birds, squirrels, bugs, and mice are just a few of the animals that live in trees. These animals and others get much of their food from trees. Bark, nuts, leaves, and fruit are tasty treats for many animals—and for people, too.

Trees cover about one-third of the earth and are the largest plants in our world. They can live for a very long time. One tree in California is 4,600 years old!

Trees, like other plants, grow from **seeds**. Trees have three main parts: **roots**, **trunks**, and **crowns**. As they grow tall above the ground, exciting things are happening underground, too. Below the soil where we can’t see them, roots are spreading far out from the tree in all directions. The roots are creeping through the soil looking for water and nutrients (food). They’re also helping hold the tree in place so it doesn’t blow over.

The tree’s main stem—called the trunk—keeps growing from year to year. The trunk keeps the tree standing strong and tall. It gives us wood, holds up the top part of the tree (the crown), and is a passageway for water and other **fluids** to move up and down the tree. The rough outer skin of the trunk is called **bark**. Layers inside the trunk make the tree grow bigger each year. You stop growing when you become an **adult**, but trees grow all of their lives.

The crown of the tree is the branches and leaves. It has the important job of making food for the tree. The leaves are tiny “factories” that make food. To do this, they need water, carbon dioxide from the air, and energy from the sun.



Young Children and Trees

No one needs to tell us that young children thrive on activity! Most of them are also naturally curious. Capitalize on these traits, and you have the makings of a delightful tree-discovery learning experience.

Encourage children to really look at the trees in their neighborhood. Invite them to get to know at least one tree as a "special friend." Some of the activities in this section encourage each child to "adopt" a special tree, learn what kind it is, what kinds of life go on around it, and how it changes from season to season. They're also encouraged to cherish the beauty of trees. Appreciation for beauty begins early. Teachers have a unique opportunity to help young children begin this journey of pleasure.

An ideal first experience for kindergartners is a field trip or outdoor nature hike. Be sure to get permission from land owners and others as needed if you're leaving the school property. The children can also look for trees to "adopt" at this time. (You may be beginning your tree study at Arbor Day time this year. Next year, you may want to start your Arbor activities at the beginning of the school year. Then youngsters can watch their trees through a cycle of seasonal changes. For activities throughout all four seasons, see Appendix, page 4.)

Your Field Trip or Nature Hike

1. Choose a place that has as many trees as possible and is within walking distance or a short bus ride from your school.

2. The ideal ratio is one tree for every three students in class, but groups may be larger if necessary.

3. Many of the activities suggested in this lesson may be used with bushes if trees are not plentiful in your area.

4. If possible, a few of the students should adopt an evergreen tree. They make interesting comparisons with deciduous trees.

5. Before the field trip, ask the students to join you in deciding on a set of rules. Try to set "do" rules rather than "do not" rules. You'll want to include the following:

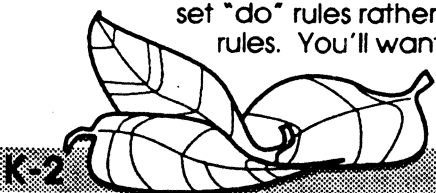
- Always keep the teacher or your adult group leader in sight.
- Leave the place as you find it. (Avoid stepping on plants whenever you can.)
- Be quiet and move slowly so you do not disturb creatures living near the trees.

The children should visit their trees frequently throughout the year. Your role as a teacher is important in helping them truly see the changes in their trees. Observations become valuable understandings through the questions and guidance you give.

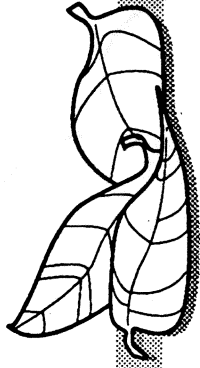
A variety of questions and activities have been included in the Appendix, pages 4-7 to help you. They are separated into five groups:

1. Those continued through the year.
2. Those conducted in autumn (soon after the school year starts).
3. Those conducted in winter.
4. Those conducted in spring.
5. Those conducted in summer (after school ends).

Encourage the students to ask their own questions, and to compare and discuss their ideas freely with others. The questions and activities you choose and the amount of guidance you give the students depends on the attention span, interests, and the "personality" of the whole class.























Kindergarten



See activity details on
pages K-5 through K-12.

Calendar

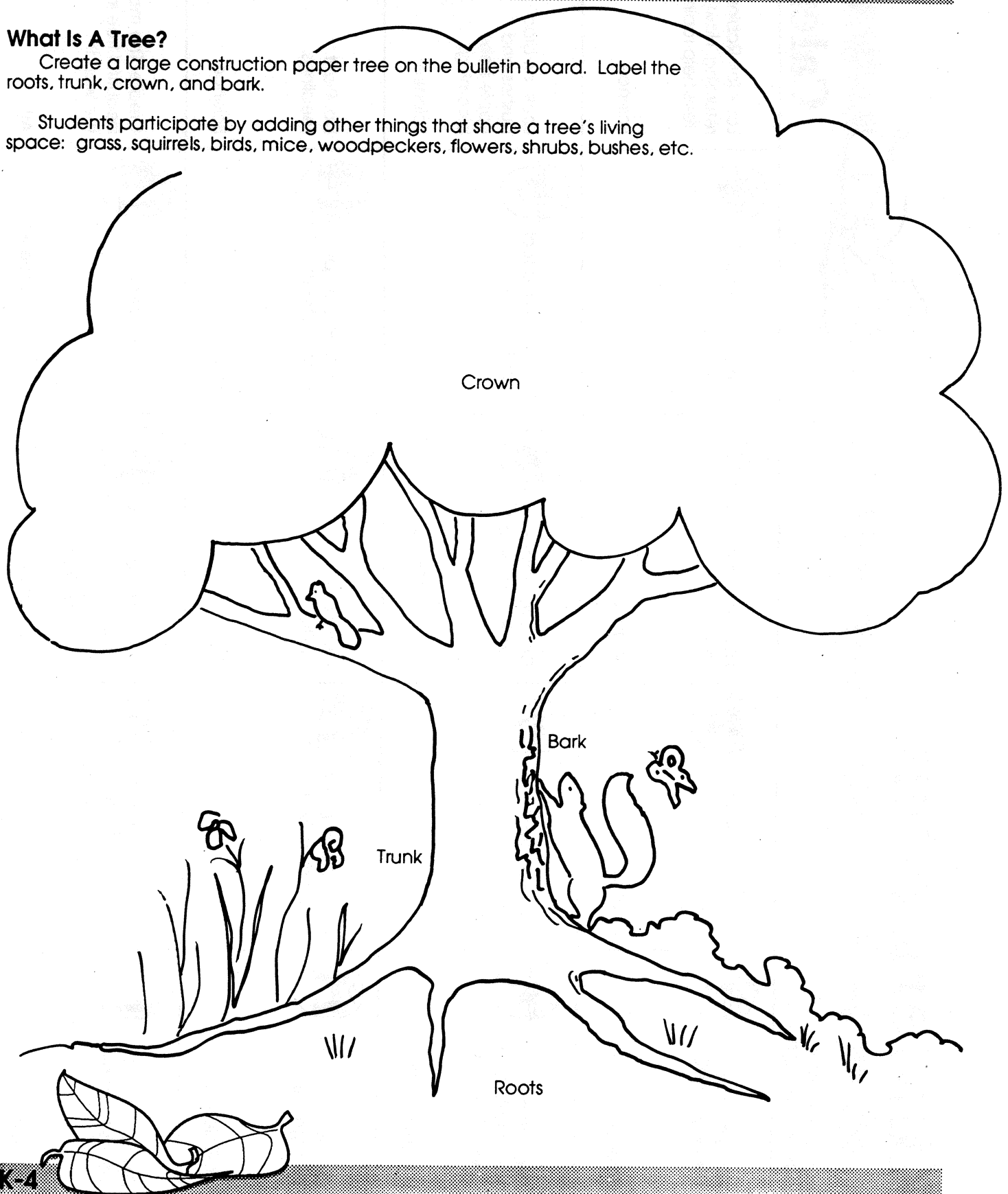
 Do: Is it a tree? (Activity Sheet) Science	 Hike: Take a nature hike! Science	 Discover: Scientists' tools! Science	 Create: Natural collages. Art	 Look for: Robins returning. How do trees help robins? Science
 Read: Shel Silverstein's "The Giving Tree." Language Arts	 Discover: Tree shapes. (Activity Sheet) Math	 Discover: Things made from wood. Art/Social Studies	 Do: Touch and feel activity. Science	 Look for: Lilac bushes and apple trees blooming. Science
 Discover: Trees all through the year. Art/Science	 Do: Outdoor touch and feel activity. Science	 Create: Leaf melties. Art	 Do: Measure up! (Activity Sheet) Math	 Do: Plant seedlings. Science
 Discuss: Trees... friends to many. Science	 Look for: Monarch butterflies, pussy willow catkins, bees pollinating, tulips blooming. Learn a tree song! Science/Music	 Fun fact: The U.S.A.'s largest living thing is the General Sherman Tree. Language Arts	 Create/Listen: Forest sounds. Music/Language Arts	 Create: The most beautiful tree in the world! Art

Bulletin Board Idea

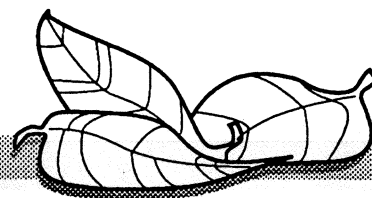
What Is A Tree?

Create a large construction paper tree on the bulletin board. Label the roots, trunk, crown, and bark.

Students participate by adding other things that share a tree's living space: grass, squirrels, birds, mice, woodpeckers, flowers, shrubs, bushes, etc.



Activities



Hands On - Minds On Activities

Follow these activities in order and you have one for each of the 20 days in Arbor Month (see calendar). Or, pick and choose any of the activities that best meet your class's needs.

To complete the calendar activities during the month, collect or ask youngsters to bring in the following: paper towel or toilet tissue tubes, bags (Activity 2); magnifying glass, microscope, scissors or knife, tweezers, (Activity 3); "*The Giving Tree*" by Shel Silverstein (Activity 6); things made from trees (Activities 8 and 9); leaves, wax paper, potato peeler, crayon shavings, paper towels or newspaper, iron, string (Activity 13); one or two seedlings per student (Activity 15); rhythm band instruments, tape recorder (Activity 19).

Activity 1: Is it a Tree?

You'll need: Activity Sheet A (page K-8) and crayons.

A tree is the largest of all plants and differs from other plants in four ways:

1. Most trees grow at least 15-20 feet tall.
2. They have one woody stem that is called a trunk.
3. The trunk grows at least three to four inches thick.
4. A tree's trunk (stem) can stand by itself.

All other plants are different from trees in at least one of these ways.

Look at the activity sheet. Ask: Do you see the tree in Box A? Is it a tree? Why or why not? Color it if it is a tree. If it's not a tree, don't color it. (Continue in the same manner with the rest of the boxes.)

Activity 2: Go on a spyglass nature walk! (See Background Information-Field Trip section, page K-2 for field trip planning and activity ideas.)

You'll need: Spyglasses-paper towel tubes, toilet tissue tubes, or construction paper tubes; bags to collect things in.

Take a walk in the neighborhood and look at the trees. How many trees do you see? What different kinds of trees are there? Look through your spyglasses at certain trees or parts of trees. Take turns describing what you see through your spyglasses. Can others "spy" and find the same objects? Use bags to collect things that come from trees-leaves, acorns, maple seeds, bits of bark. Be sure not to damage or destroy living trees as you make your collection.

Activity 3: Study your nature hike discoveries the scientific way!

You'll need: Microscope; magnifying glass; tweezers; scissors or knife; sunlight or strong indoor light.

Ask:

- a. What is a scientist?
- b. What kinds of tools do scientists use?
- c. How do these tools help scientists?
- d. How can these tools help us learn about trees?

Examine the tree parts collected earlier under the microscope and magnifying glass. How do things look different? What are some new things we learned?

Activity 4: Tree art.

Use the tree parts studied in Activity 3 to create art—nature scenes, gardens, designs. Glue nature's pieces to drawing paper; complete by adding crayon or paint details.

Activity 5: Look for: Robins returning.
How do trees help robins?

Activity 6: Read "*The Giving Tree*" by Shel Silverstein.

In what ways did people hurt the tree? In what ways could they have helped the tree and kept it safe?

Ask students to bring things to school that are made from trees. (See Activity 8).

Activity 7: Explore tree shapes.

You'll need: Activity Sheet B (page K-9). Ask: What shapes do you see on the bottom of your paper? Cut out the shapes and paste each one onto the tree it matches.

Thinking ahead to tomorrow: Try to bring something to school that is made from a tree. See if you can think of something unusual.

Activity 8: Tree things.

Talk about the things students brought that are made from trees. Ask: How would our lives change if we did not have some of these things? Give each student a sheet of paper. They fold the sheets into quarters (to have four boxes). In each box or "window" they draw something that is made from a tree.

Activity 9: Touch and feel fun.

You'll need: Bags or containers; objects to feel.

Place several items in a bag that are things from a tree. Students take turns putting their hands in the bag and trying to identify items by touch only. When they have things in their hands, they describe each item and tell what they think it is. Then they draw the item out to check their guesses.

Activity 10: Look for: Lilac bushes and apple trees blooming.

Draw or paint beautiful flowering trees.

Activity 11: Trees all through the year.

Give each student a large sheet of drawing paper. They fold their papers into fourths. Then they close their eyes and think about how a certain tree would look during each season. (This can be each person's "adopted" tree - or another favorite tree.) They will need help imagining what the tree looks like in other seasons if they've only been seriously observing the tree during Arbor Month.

Encourage youngsters to draw what they think their trees look like in each of the four seasons. Start with spring-the growing and new birth season. Go next to summer, then fall and winter in left to right, top to bottom sequence.

Activity 12: More touch and feel fun.

Go outdoors and get acquainted with trees by touch. Blindfold one student at a time and have each "hug" and feel a tree. As they are feeling the tree, ask some specific questions; students will try to answer by using their senses of touch. Possible questions:

- Is this a young tree? An older tree?
- Is this an evergreen or a tree that loses its leaves in winter?
- Is the tree alive?
- How big around is the trunk? (Show with hands or arms).

After he or she has had a turn, guide the student away from the tree. Remove the blindfold and challenge the youngster to find the same tree again-this time with eyes wide open.

Activity 13: Leaf melties.

You'll need: Leaves; waxed paper; old



color crayons; potato peeler or grater; paper towels or newspaper; iron; string.

Besides enjoying their shade, look what you can do with leaves! Have each youngster collect two or three well-shaped leaves and press them flat under a stack of heavy books. Arrange pressed leaves on a piece of waxed paper about the size of a notebook page. Using old color crayons and a potato peeler or grater, make crayon shavings to sprinkle over the leaves. Use favorite colors. Cover the leaves and crayon shavings with a second piece of waxed paper. Put three thicknesses of paper towels or a few sheets of newspaper on top to protect the design. Press carefully with a hot iron to melt the crayon shavings. When you take away the newspaper or toweling, you have a beautiful leaf meltie. Trim to a shape you like, thread a string through the top, and hang in the window to "light up" and dazzle!

Activity 14: Measure up.

You'll need: Activity Sheet C (page K-10). Tell students: We are going to do some measuring today. On the bottom of your sheet is a ruler. Cut it off the sheet. Then use it to measure the parts of trees on the rest of the paper. (Depending on your group, you may need to do this activity together or have extra aides available to help students who have difficulties.)

Activity 15: Plant seedlings.

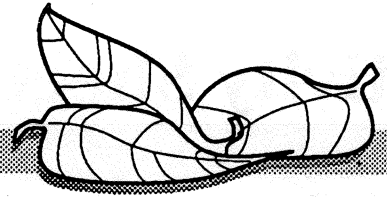
You'll need: A seedling for each youngster. Available from:

Lone Peak Conservation Center
271 West Bitterbrush Lane
Draper, UT 84020-9599
Phone: (801) 571-0900 FAX: (801) 571-0468

What do trees need to live? They need water, light, and air just like other plants. Review how to plant a tree (Appendix, page 3). Send home a seedling with each student to plant in their yards or in flower pots until they can be planted safely outdoors. Send a copy of "How to Plant a Tree" (Appendix, page 3) along with each seedling.

Activity 16: Trees...friends to many.

Talk about some of the many creatures that call a tree a friend and how they use it. How many can you think of? Birds build their nests in trees. Many birds eat bugs that are on trees or in the bark. A tree can provide shade for people and a fun place for children to play. Squirrels have their homes in trees, eat nuts and jump from branch to branch. Some caterpillars hide from



the birds by rolling themselves up in the leaves while they turn into moths. Leaves from last year decay and become food for earthworms. They also enrich the soil.

Activity 17: Look for: Monarch butterflies, pussy willow catkins, bees pollinating, tulips blooming.

Learn a song about trees: "The Little Nut Tree," "Don't Sit Under the Apple Tree With Anyone Else But Me," "Here We Go Round the Mulberry Bush," etc.

Activity 18: Meet General Sherman.

Fun fact: The U.S.A.'s largest living thing is the General Sherman Tree, a giant sequoia in Sequoia National Park in California. It towers more than 272 feet tall and has a trunk about 36 feet wide. That means it's as tall as a 20-story building and its trunk is as wide as a semitrailer is long. It's probably almost 3,000 years old.

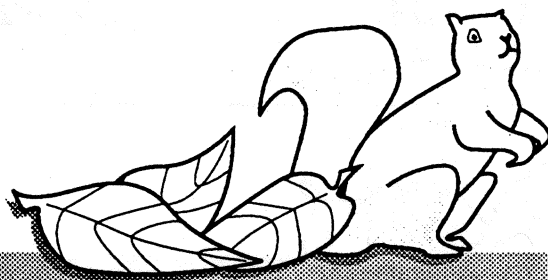
Activity 19: Forest sounds.

You'll need: Rhythm band instruments; tape recorder.

Gather rhythm band and other instruments and create your own forest music. How does a forest sound? Which instrument(s) would you use to sound like breezes through the leaves, squirrels leaping from branch to branch, birds calling, a tree being chopped down or falling? How about feet shuffling through the fall leaves, a deer running through the bushes, a woodpecker pecking, a sleepy owl hooting? Would a forest sound different at night than during the daytime? Tape record your best efforts. Invite others to listen to your tape. Did anyone "hear" your forest the same way your group did?

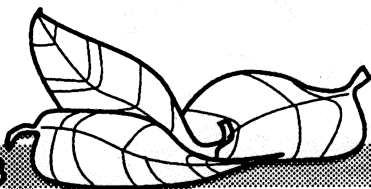
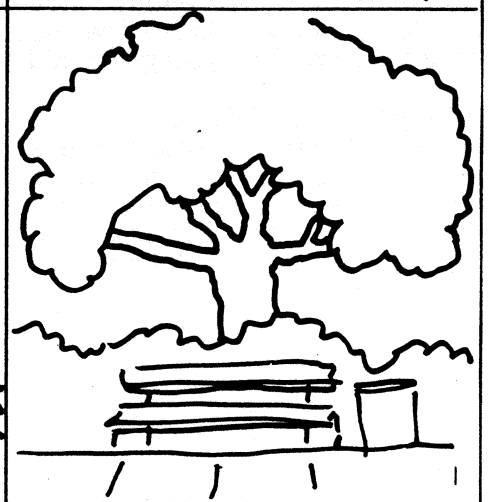
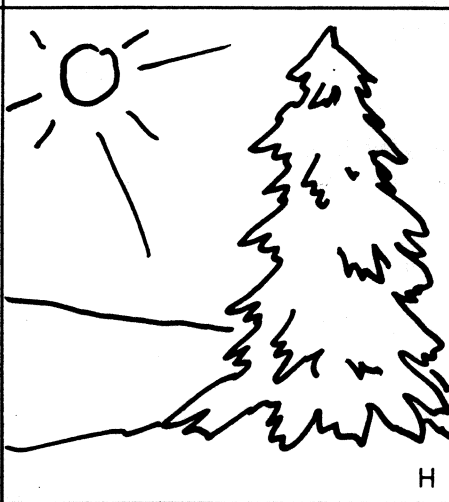
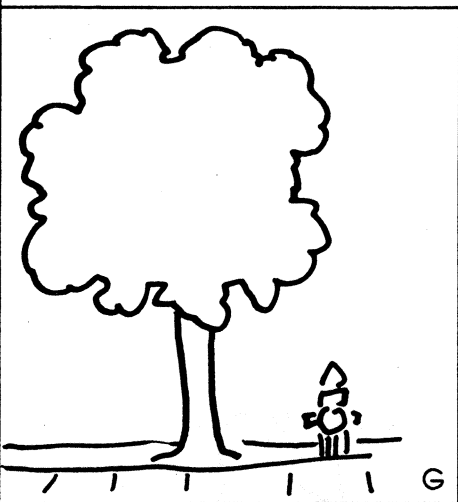
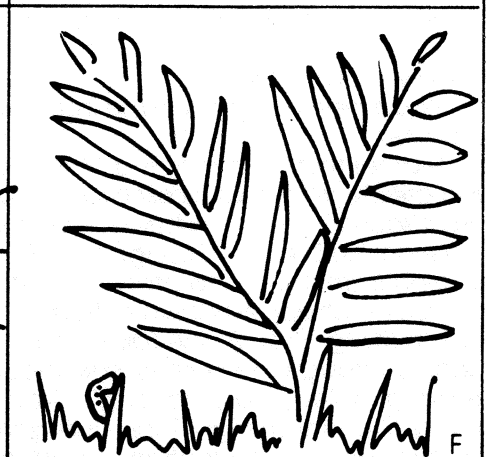
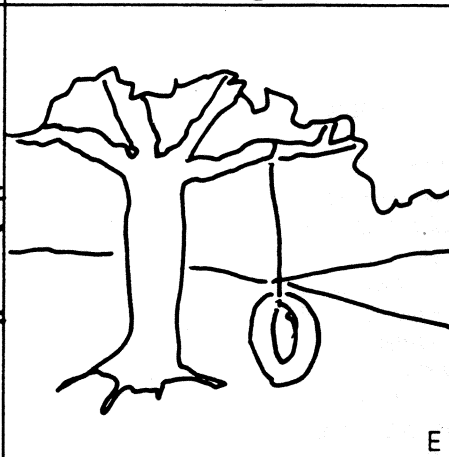
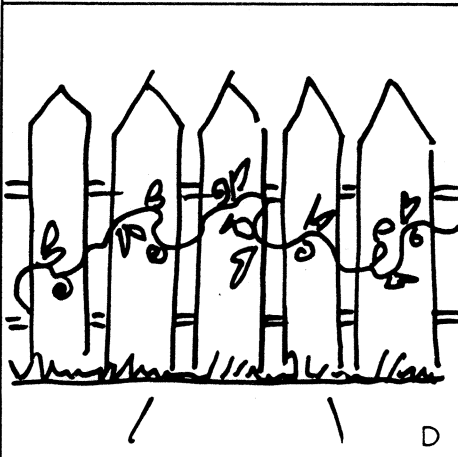
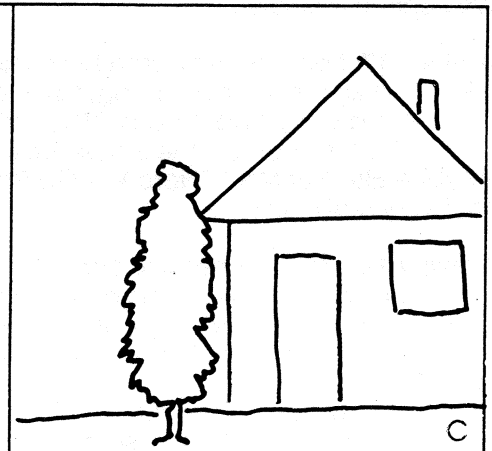
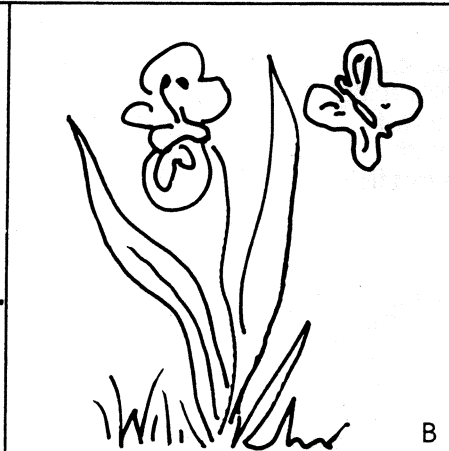
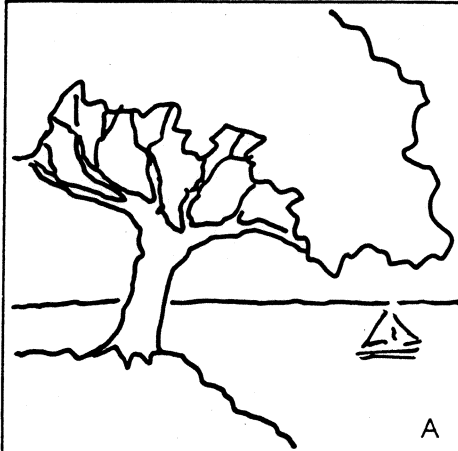
Activity 20: Beautiful trees.

Invite students to close their eyes and think of the most beautiful tree in the world. Ask: What would it look like? Where would it be? What would you do with it? What would you say to it? Each student draws a picture of his or her "dream tree."

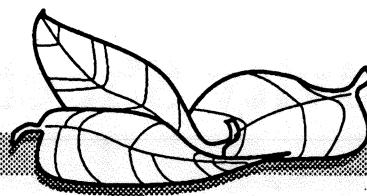


Activity Sheet A

Is it a Tree?

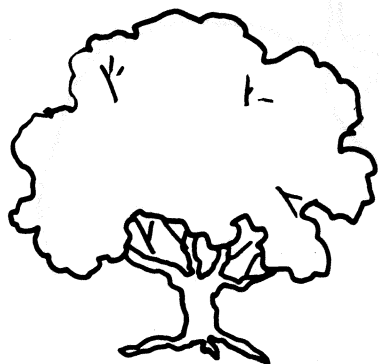


Activity Sheet B



Explore Tree Shapes

Cut out the shapes below and paste them on a tree that matches each shape.



oak



spruce



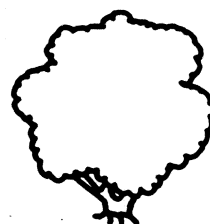
maple



cypress

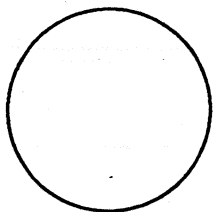
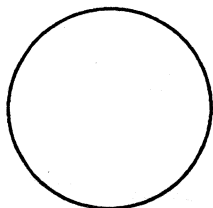


juniper

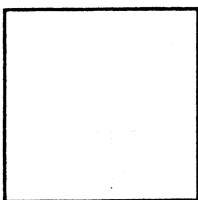
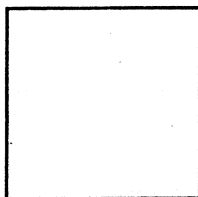


crab apple

round



square

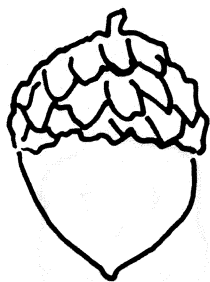


triangle

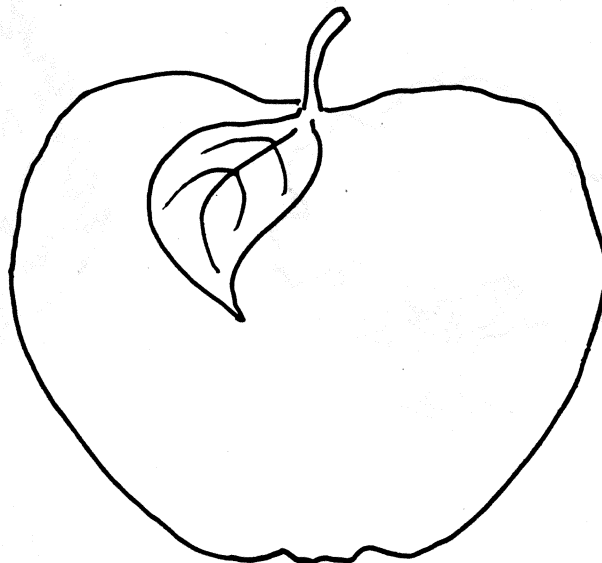


Activity Sheet C

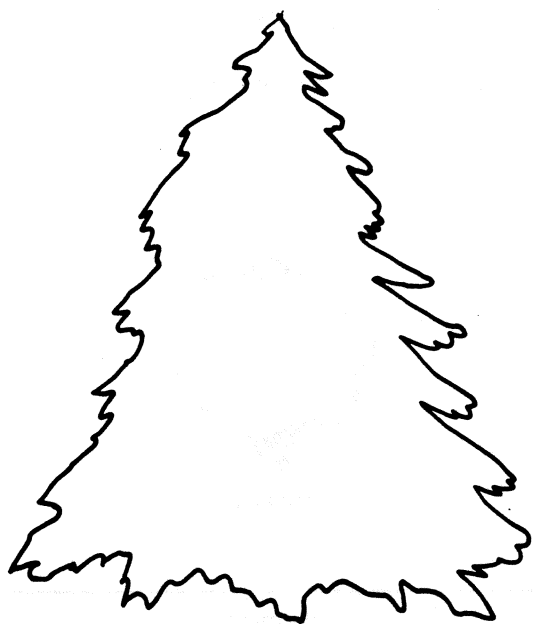
Measure Up!



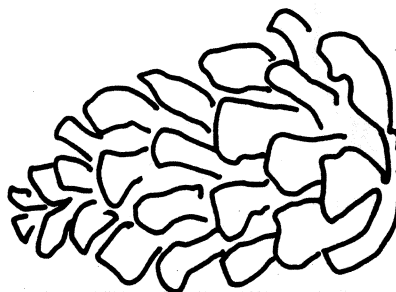
_____ inches wide



_____ inches wide



_____ inches tall

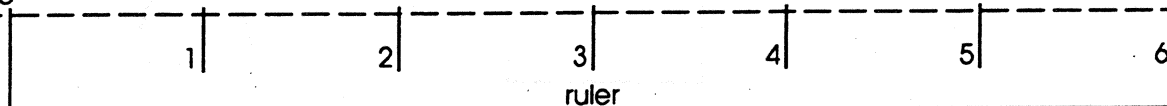


_____ inches long

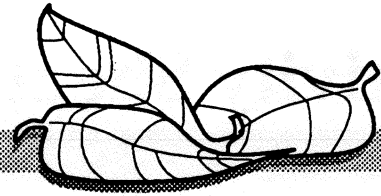


_____ inches long

cut here



More Activity Fun



Tree Tots

Talk about the parts of a tree and take a tree walk.

You'll need:

- Leaves from several different kinds of trees.
- Twigs, bark, fruit, nuts, or other tree parts.
- Pictures of trees and tree parts.
- Paper.
- Construction paper.
- Tape.
- Marker (optional).
- Glue (optional).
- Yarn (optional).

Here's an activity that will help younger children look more closely at trees. First, they'll learn about some of the different "parts" that make up a tree. Afterward, you can take them on a walk outside to compare some of the different trees in your area.

Before the students arrive, find four or five different kinds of trees around your school or nature center and collect some leaves from each. (Collect a leaf for each child in your group. If you gather the leaves quite a while before you do the activity, you can keep them fresh by wrapping them in a wet towel.) Collect a few twigs, pieces of bark, and other tree parts, too. Keep in mind where all of the trees are located so you can find them again when you go outdoors with your students.

Trace an outline of each kind of leaf on a piece of paper. (You may need to enlarge the outlines and go over them with a dark marker so they'll be easy to see from a distance.) Tape or hang each of the leaf outlines in a different place in the room.

When you're ready to start the activity, have the students sit in a circle. Lead a discussion about the different parts of a tree. Show pictures of leaves, bark, branches, roots, and other tree parts as you talk. Pass around any parts you collected before the activity. You may want to talk about what each tree part does.

After the discussion, give each child one of the leaves you collected. To help them observe their leaves closely, ask some questions. For example: Are the leaf edges pointed or smooth? Are any of the leaves a different color from the others? Do any of the leaves have tiny hairs on their undersides? Can you see and feel the

veins? Is there anything special about any of the leaves? (For example, some may notice that their leaves have been munched on by insects or other animals.)

Next, tell the students there's a picture of each type of leaf hanging somewhere in the room. Have them look for the leaf outlines that match their own particular leaves, then have each of them go and stand next to the correct picture.

Once everyone has found the right leaf shape, take a walk outside to find the trees the leaves came from. Youngsters take their leaves with them outside.

Each group of students with the same kind of leaf keep their eyes peeled for "their" tree. Stop at certain trees as you walk along and ask if anyone thinks his or her leaf came from that particular tree. Have the youngsters who say "yes" hold their leaves up in the air. Are they right? Next, all the students look for some of the tree's parts on the ground. Can they find twigs and buds, fruit or nuts, other leaves, or any other tree "pieces"? Compare the parts they find to those of other trees you stop and talk about.

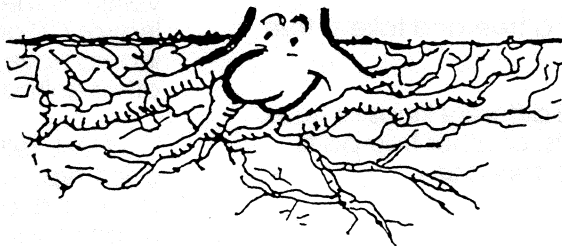
Adapted from Ranger Rick's Naturescope "Trees are Terrific." Used with permission.

Rodney the Root Says...

Finish my tree! See Activity Sheet D (page K-12).

Activity Sheet D

Rodney the Root says...



finish my tree.

